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(54) Title: ELECTRICALLY DRIVEN APPARATUS FOR EJECTING INJECTION MOLDED PARTS

(57) Abstract

A molded part ejection system (103) includes a drive mechanism having a reversible servomotor (240). The drive mechanism for the ejection system includes a cam-and-follower arrangement whereby a circular cam member (252) is driven by the servomotor (240) through a drive shaft (250) that is connected with the cam member (252) and is offset from the center of the circular cam track (254). A cam follower (260) is connected with an ejector drive rod (238), and the cam follower (260) rides in the cam track (254) to cause linear movement of the ejector drive rod (238) as the cam follower (260) follows the circular cam through its non-circular path of motion. Rotation of the servomotor (240) in one direction of rotation operates the part ejection system, while rotation of the servomotor in the opposite direction of rotation provides power to another portion of the machine during another portion of a molding machine operating cycle, such as a core-pull system. The servomotor drive shaft (241) includes a pair of one-way clutches that are each operable in a different direction of rotation of the motor drive shaft (241). In one direction of rotation, the motor (240) actuates a part ejection mechanism and in the other direction of rotation, the motor (240) can provide power to operate a different system of the molding machine. The present invention thus permits a single motor to perform two functions at different times during the operating cycle of an injection molding machine.

